

Title (en)
METHOD FOR PRODUCING AN OBJECT FROM A METAL OR AN ALLOY BY MEANS OF LARGE PLASTIC DEFORMATION AND PRESSING TOOL THEREFOR

Title (de)
VERFAHREN ZUR HERSTELLUNG EINES GEGENSTANDES AUS EINEM METALL ODER EINER LEGIERUNG MITTELS STARKER PLASTISCHEN VERFORMUNG SOWIE PRESSWERKZEUG HIERFÜR

Title (fr)
PROCÉDÉ DE PRODUCTION D'UN OBJET EN MÉTAL OU EN ALLIAGE PAR DÉFORMATION PLASTIQUE SÉVÈRE ET OUTIL DE MOULAGE PAR COMPRESSION CORRESPONDANT

Publication
EP 2646591 B1 20190619 (DE)

Application
EP 11810543 A 20111116

Priority
• AT 19842010 A 20101129
• AT 2011050030 W 20111116

Abstract (en)
[origin: WO2012071600A1] The invention relates to a method for producing an object from a metal or an alloy, in particular a titanium alloy, wherein in a pressing process a pin (1) is pressed through a first channel (3) of a pressing tool (2) and a second channel (4) of the pressing tool connected to the first channel optionally several times, whereupon the object, such as an implant, is created from the pressed pin (1). According to the invention, the pin (1) is pressed through a second channel (4) having a smaller cross-sectional diameter than the first channel (3) at least at one point. The invention further relates to an object, in particular an implant, which can be obtained according to a method according to the invention, and to a pressing tool (2) that is suitable for carrying out a method according to the invention.

IPC 8 full level
C22F 1/18 (2006.01); **A61L 27/06** (2006.01); **B21C 23/00** (2006.01); **B21C 23/18** (2006.01); **B21K 1/46** (2006.01); **C22C 14/00** (2006.01)

CPC (source: AT EP)
A61L 27/06 (2013.01 - EP); **B21C 23/00** (2013.01 - AT); **B21C 23/001** (2013.01 - EP); **B21C 23/183** (2013.01 - EP); **B21J 5/00** (2013.01 - AT); **B21K 1/46** (2013.01 - EP); **C22F 1/183** (2013.01 - EP)

Citation (examination)
• XU W ET AL: "Formation of an ultrafine-grained structure during equal-channel angular pressing of a beta-titanium alloy with low phase stability", SCRIPTA MATERIALIA, ELSEVIER, AMSTERDAM, NL, vol. 60, no. 11, 26 February 2009 (2009-02-26), pages 1012 - 1015, XP026075509, ISSN: 1359-6462, [retrieved on 20090226], DOI: 10.1016/J.SCRIPTAMAT.2009.02.043
• TAIK NAM KIM ET AL: "In vitro biocompatibility of equal channel angular processed (ECAP) titanium; In vitro biocompatibility of ECAP titanium", BIOMEDICAL MATERIALS, INSTITUTE OF PHYSICS PUBLISHING, BRISTOL, GB, vol. 2, no. 3, 1 September 2007 (2007-09-01), pages S117 - S120, XP020125634, ISSN: 1748-605X, DOI: 10.1088/1748-6041/2/3/S06

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)
WO 2012071600 A1 20120607; AT 510770 A1 20120615; AT 510770 B1 20150115; EP 2646591 A1 20131009; EP 2646591 B1 20190619

DOCDB simple family (application)
AT 2011050030 W 20111116; AT 19842010 A 20101129; EP 11810543 A 20111116